



CITY OF NEWPORT BEACH
COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING DIVISION

100 Civic Center Drive | P.O. Box 1768 | Newport Beach, CA 92658-8915
www.newportbeachca.gov | (949) 644-3200

RESIDENTIAL
PLAN REVIEW COMMENTS

Project Description:

Project Address:

Plan Check No.:

Permit App. Date:

Plan Check. Expires:

Use:

Occupancy:

Const. Type:

No. Stories:

Permit Valuation:

Adjusted Valuation:

Architect/Engineer:

Phone:

Applicant/Contact:

Phone:

Plan Check Engineer:

Phone:

Engineer email:

☒

1st Review: (date)

☐

2nd Review:
Italic comments

☐

3rd Review:
By Appointment

The project plans were reviewed for compliance with the following codes and standards:

2013 CRC; 2013 CBC; 2013 CPC; 2013 CEC; 2013 CMC; 2013 California Energy Code; 2013 California Green Building Standards Code (CG); & Chapter 15 of the Newport Beach Municipal Code (NBMC).

The code section references are from the 2013 CRC, unless otherwise stated.

- **TO EXPEDITE PROJECT APPROVAL:** Please provide a written response indicating how and where each comment was resolved on the plans.
- Resubmit all previously reviewed plans, updated plans and supporting documents with each subsequent review.
- **AFTER 2nd PLAN REVIEW:** Please call the plan check engineer listed above to schedule a plan review appointment, to expedite project approval.
- For clarification of any plan review comment, please call the plan check engineer listed above.
- Plan review status is available online at www.newportbeachca.gov. Project status is also available using the interactive voice response system at 949-644-3255, or by speaking with a permit technician at 949-644-3288 during business hours.

GENERAL

1. Please note on plan: "ISSUANCE OF A BUILDING PERMIT BY THE CITY OF NEWPORT BEACH DOES NOT RELIEVE APPLICANTS OF THE LEGAL REQUIREMENTS TO OBSERVE COVENANTS, CONDITIONS AND RESTRICTIONS WHICH MAY BE RECORDED AGAINST THE PROPERTY OR TO OBTAIN PLANS. YOU SHOULD CONTACT YOUR COMMUNITY ASSOCIATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION AUTHORIZED BY THIS PERMIT."
2. Please note on plan: "PRIOR TO PERFORMING ANY WORK IN THE CITY RIGHT-OF-WAY AN ENCROACHMENT PERMIT MUST BE OBTAINED FROM THE PUBLIC WORKS DEPARTMENT."
3. Obtain plan review approval from the following:
 - a. Building Division
 - b. Fire Department
 - c. Planning Division
 - d. Public Works Department
4. Include the following on all plan sheets in the title block:
 - a. Site address
 - b. Plan preparer's name, address and telephone number,
5. Provide property owner's name, address and telephone number on cover sheet. Also provide project description.
6. All permits related to the proposed project shall be issued at the same time, or separate plans and plan review will be required for items not issued with this review. Provide additional permit worksheets for the following:
 - a. Accessory structures, detached patio covers and trellises,
 - b. Masonry or concrete fences over 3.5 ft high,
 - c. Retaining walls over 4 ft high from the bottom of the foundation to the top of the wall.
7. Provide fully dimensioned plot plan to scale. Show lot dimensions, street, alley, easements, all projections, and location of all structures.
8. A Cal-OSHA permit is required for excavations deeper than 5' and for shoring and underpinning. Write a note on plans.
9. Incorporate attached RESIDENTIAL CONSTRUCTION MINIMUM REQUIREMENTS specification into plans. Update plans to comply with the minimum requirements. Form available online at: <http://www.newportbeachca.gov/Modules/ShowDocument.aspx?documentid=11141>
10. Incorporate attached CAL GREEN RESIDENTIAL MINIMUM REQUIREMENTS specification into plans. Update plans to comply with the mandatory requirements. Form available online at: <http://www.newportbeachca.gov/Modules/ShowDocument.aspx?documentid=11142>
11. Structural condition of seawall and tiebacks to be investigated by a registered engineer and the necessary repairs shall be done in conjunction with building a new structure. Separate submittal and permit is required for repair.
Exception: Seawalls around Balboa Island.
12. Final drawings which will be approved for permit issuance, shall be signed by the respective design professional (electronic signature is acceptable).

LIGHT & VENTILATION

13. Exterior glazed openings of habitable rooms for natural light shall be minimum 8% of the room floor area. Artificial lighting may be used in lieu of natural lighting. R303
14. Openable ventilation area of habitable rooms must be 4% or more of the room floor area. R303. In lieu of exterior openings for habitable rooms, a mechanical ventilating system meeting the California Mechanical Code requirements may be provided. R303

EXTERIOR WALLS

15. Exterior walls of dwellings, guesthouses, garages, carports and/or accessory structures closer than 5 ft. (3 ft. if sprinklered) to the property line shall be 1-hour fire-resistance-rated construction. Table R302.1(1) and (2)
16. No openings shall be permitted in the exterior walls, including vents, of Group R-3 & Group U Occupancies where the exterior wall is closer than 3 ft. to the property line. Table R302.1(1) and Table R302.1(2)
17. Where the exterior wall of non-sprinklered Group R3/U-Mixed occupancy structure is located between 3 ft and 5 ft. away from the property line. The total area of protected and unprotected openings, including vents, is limited to 25% of the wall area on each floor not including garage wall. R302.1(1) and Table R302.1(2)
18. Eaves are not permitted in Group R3/U @ 2 ft. or closer to the property line. Projections in sprinklered structures located > 2 ft. and ≤ 3 ft. to the property line and between 2' and 5' from the property line in non-sprinklered structures shall be of at least 1-hour fire-resistance-rated construction or heavy timber. R302.1(1) and Table R302.1(2)
19. Exterior stairways with one open side serving as an element of a required means of egress are not permitted closer than 3 ft. to the property line. Table R302.1(1) and Table R302.1(2). Open side of exterior stair plus other openings on the secure exterior wall shall be limited per Table R302.1(1) and Table R302.1(2).

MEANS OF EGRESS

20. In every bedroom and basement greater than 200 sq. ft. or containing habitable space, provide one openable escape opening meeting all of the following: R310
 - a. A net clear opening area of not less than 5.7 sq. ft. (5.0 sq. ft. escape for grade – floor window).
 - b. Minimum clear opening height of 24 inches.
 - c. Minimum clear opening width of 20 inches.
 - d. the bottom of window opening shall not be more than 44 inches from the floor.
 - e. Window control opening device shall not reduce the required net clear opening area of the window R 312.2.2.
 - f. Provide a well for escape window from basement.
 - g. Area of window well to be 9 sq. ft. minimum with 3' ft. minimum dimension.
 - h. Provide a ladder from window well if deeper than 44".
21. Provide a minimum of one exit doorway not less than 3 ft. wide and 6 ft. 6 inches in height, and with a minimum clear width of 32 inches. R311
22. Landing lengths at ____ door shall be a minimum of 36 inches in the direction of travel. R311.3
23. For habitable levels or basements located more than one story above or more than one story below an egress door, the maximum travel distance from any occupied point to a stairway or ramp that provides egress from such habitable level or basement, shall not exceed 50 feet. R311.4
24. Landings or floors at the required egress door shall not be more than 1 ½ inches lower than the top of the threshold. The exterior landing or floor shall not be more than 7 ¾ inches below the top of the threshold provided the door does not swing over the lower landing or floor. R311.3.1
25. Provide section and details of interior and exterior stairway showing:
 - a. Maximum rise of 7.75 inches and minimum run (tread) of 10 inches. R311.7.5
 - b. Provide a nosing between 0.75" and 1.25" on stairways with solid risers where tread depth is less than 11". R311.7.5.3 and Exception 1
 - c. Minimum width of 36 inches. R311.7.1
 - d. Minimum headroom of 6 ft. 8 inches. R311.7.2
26. Winder treads:
 - a. Shall have a minimum tread depth of 10 inches at a point 12 inches from the narrow side. R311.7.5.2.1
 - b. Shall have a minimum tread depth of 6 inches at any point within the clear width of the stair.

27. Spiral Stairways shall comply with the following requirements: R311.7.10.1
 - a. Tread: 7.5", minimum at 12" from narrow edge; Rise: 9.5" maximum; Width: 26" minimum, minimum headroom of 6'-6".
 - b. Provide spiral stairway column connections and footing details
28. Handrails shall satisfy the following:
 - a. Provide a minimum of one continuous handrail on stairways with 4 or more risers and at all open sides. R311.7.8
 - b. Handrail height shall be 34 to 38 inches above the nosing of treads. R311.7.8.1
 - c. Handrail with circular cross-sections shall have a diameter of 1.25 to 2 inches. R311.7.8.3 item 1.
 - d. Handrails with other than circular cross-sections shall have a perimeter dimension of 4 to 6.25 inches with a maximum cross-section of 2.25 inches. R311.7.8.3 item 1
 - e. Handrails with a perimeter greater than 6.25 inches shall comply with R311.7.8.3 item 2.
 - f. Handrail shall be continuous without interruption by newel post or other obstruction, except at the landing, volute, or turnout on lowest tread. R311.7.7.2, Exception 1 & 2.
 - g. Clear space between handrail and wall shall be 1.5 inches minimum. R311.7.8.2
29. Guards (guardrails) shall meet the following:
 - a. Provide guards where the open side is more than 30 inches measured vertically to the floor or grade below at any point within 36 inches horizontally to the edge of the open side. R312.1
 - b. Guard height shall be a minimum of 42 inches. R312.2
 - c. Openings between intermediate balusters shall preclude the passage of a 4 inch diameter sphere. R312.3
 - d. The triangular openings formed by the riser, tread and bottom rail shall preclude the passage of a 6 inch diameter sphere. R312.3 Exception 1.
 - e. Openings between intermediate balusters on the open side of stairs shall preclude the passage of a 4-3/8 inches diameter sphere. 312.3 Exception 2.
30. Provide a connection detail for guardrail to withstand a 200 lb force at top of the railing acting in any direction, and min 50 lb for intermediate guard components. The loads are not required to be cumulative.

CONSTRUCTION

31. For duplexes and townhouses provide the following:
 - a. Floors and walls separating dwelling units in the same building shall not be of less than one-hour fire-resistive construction. R302.3
 - b. Provide sound transmission ratings (STC) not less than STC 50.
 - c. Townhouses shall comply with Section R302.2
32. Where a window sill is located higher than 72" above adjacent grade or finished surface on the opposite side, the lowest part of the opening shall be 24" minimum above the room finish floor surface. Operable sections of window shall not permit openings that allow passage of 4 inch sphere where such openings are located within 24 inches of the finished floor. R312.2.1
33. One hour wall assemblies shall extend from the foundation to the underside of the roof. R302.3
34. Where floor assemblies are required to be fire-resistance rated, the supporting construction of such walls shall have equal or greater fire resistive rating. R302.3.1
35. Net area of shower enclosure shall be not less than 1,024 sq. inch (7.1 sq. ft.) of floor area, and a minimum of 30 inches diameter circle. CPC 408.6
36. Show attic ventilation type, size and location. Vents shall meet the following requirements. R806.2
 - a. Openings shall be placed so as to provide cross ventilation of the attic space.
 - b. The net free ventilating area shall not be less than 1/150 of the attic area.
 - c. Openings shall have corrosion-resistant wire mesh or other approved material with 1/8 inch minimum and 1/4 inch maximum opening.
 - d. 50% of the required ventilation area must be located at least 3 feet above eave or cornice vents with the balance provided by eave or cornice vents.

- e. Where the ratio of 1/300 is used to vent the attics, not less than 40% but not more than 50 % of the vents shall be located not more than 3 ft below the ridge.
- 37. Provide roofing specifications, including roof assembly class, and show roof pitch.
- 38. Roof covering:
 - a. Provide Class A roof covering for new and reconstructed structures. NBMC 15.04.200
 - b. Combustible roof covering (Class B) is permitted in other than high-fire hazard severity zone provided it is part of Class A assembly with 1-Hr. boxed eaves and fire sprinkler system throughout, including attic. NBMC 15.04.220
- 39. Combustible roof covering is not permitted in a high-fire hazard severity zone when it exceeds 50% of the roof area. (NBMC 15.04.210)
- 40. Provide 2% slope at flat roofs and decks.
- 41. Provide roof drains and overflow. Overflow to be piped separately. R903.4.1
- 42. The following construction components/materials are not included in the California Building Code. Specify the listing/labeling agency and listing number for: _____. Listing agency to be ANSI accredited for type of listing:

GARAGE AND CARPORT

- 43. The following is required for the separation of the private garage from the dwelling unit:
 - a. Garages beneath habitable rooms shall be separated by no less than 5/8 inches type X gypsum board applied to the underside of floor framing. Provide minimum ½ inch gypsum board on the garage side elsewhere. Table R302.6
 - b. Doors shall be 1 3/8" solid core or min 20 minute fire rated door (for non-sprinklered dwellings) and self-closing and self-latching in sprinklered and non-sprinklered dwellings. R302.5.1
 - c. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. R302.5.1

VENEER / FIREPLACE

- 44. Specify and detail the veneer material, thickness, backing, anchorage, footings and support over openings. R703.7
- 45. Exterior stone in seismic design category D (D2) shall not exceed the limits of Table 703.7.(2) and shall not exceed 4 inches thick.
- 46. Masonry veneer up to 5" thick, installed over backing of wood or cold-formed steel according to Table R703.4 and Figure R703.7, shall be limited to first story above grade (R703.7).
- 47. For the fireplace/chimney specify the following:
 - a. Chimney shall extend at least 2 ft. higher than any portion of the building within 10 ft., but shall not be less than 3 ft. above the highest point where the chimney passes through the roof. R1003.9

MECHANICAL, PLUMBING & ELECTRICAL

- 48. Provide heating facilities per CRC R303.9.
- 49. Show location of FAU.
- 50. Show location of electrical panel on plans. Electrical panels are not permitted in closets, bathrooms, and pantries.
- 51. Keep three feet clear from face of electrical panel to any wall surface or obstruction.
- 52. All plumbing fixtures shall be complying with the maximum flow rates as noted in the residential construction minimum requirements.

ENERGY EFFICIENCY

53. Specify method of compliance and provide energy calculations. Provide Certificate of Compliance (CF-1R) forms on plans. CF-1R form is to be signed by designer or owner, and documentation author.
54. For Performance approach, use one of the following certified programs:
- a. Energy Pro Version 6.3, 6.4 or 6.5
 - b. CBECC-Res V3, V3b1 and V3c
 - c. Right-Energy Title 24 v1.1, 1.2 or 1.3 (For newly constructed single family buildings)
- Visit the following link for the latest CEC approved software:
http://www.energy.ca.gov/title24/2013standards/2013_computer_prog_list.html
55. Proposed scope of work requires HERS verification. All energy documentation forms must be registered with one of the following HERS provider:
- a. ConSol Home Energy Efficiency Rating System (CHEERS): <http://www.cheers.org>
 - b. California Certified Energy Rating & Testing Services (CalCERTS): <http://www.calcerts.com>
 - c. U.S. Energy Raters Association (USERA) who was formerly CBPCA: <http://www.cbPCA-hers.org>
56. Provide an itemized list of all fenestrations in energy documentation. Identify exterior doors and windows with method similar to window schedules.
57. Specify U-factors and Solar Heat Gain Coefficient (SHGC) values for all fenestrations on window and door schedules. Add note to schedules, "Fenestrations must have temporary and permanent labels."
58. New construction and additions greater than 1000 sf.: Provide a whole-building mechanical ventilation system in accordance with the Fan Ventilation Rate or Total Ventilation Rate Method. Include ventilation system sizing calculations on the plans.
- a. Fan Ventilation Rate Method (ASHRAE Section 4.1.1):
 - i. Minimum required fan flow rate, Q_{fan} (cfm) = 1 cfm per 100 sf of floor area + 7.5 cfm per occupant
 - ii. Number of occupants = number of bedrooms + 1
 - b. Total Ventilation Rate Method (ASHRAE Section 4.1.2):
 - i. Minimum required Mechanical Ventilation Rate, Q_{fan} (cfm) = $Q_{tot} - Q_{inf}$
 - ii. Total required ventilation rate, Q_{tot} (cfm) = 3 cfm per 100 sf of floor area + 7.5 cfm per occupant
 - iii. Number of occupants = number of bedrooms + 1
 - iv. Effective Annual Average Infiltration Rate, Q_{inf} (cfm), determined in accordance with ASHRAE Std 62.2 equation 4.6a.

Whole-building ventilation shall be provided by exhaust air, supply air or combined exhaust and supply air system. Natural ventilation through doors/windows or continuous operation of central forced air system air handlers used in central fan integrated ventilation systems are not a permissible methods of providing whole-building ventilation. BEES 150(o), Exc. 5 to 152(a) & ASHRAE Std. 62.2

59. In kitchen specify the local exhaust system vented to outdoors shall have a minimum exhaust rate of 100 cfm. BEES 150(o), Exc. 5 to 152(a) & ASHRAE Std. 62.2
60. New Building: An energy design rating for the Proposed Design Building shall be computed by Compliance Software certified by the Energy Commission and this rating shall be included in the Certificate of Compliance documentation.

SOUND TRANSMISSION CONTROL

61. A Sound Transmission Class (STC) rating of not less than 50 based on laboratory testing (45 if field tested) is required. CBC 1207.2. Provide construction details of the sound rated partition between dwelling units. CBC 1207

62. Provide construction details of the floor-ceiling assembly over. An STC rating and Impact Insulation Class (IIC) rating of not less than STC 50 based on laboratory testing (45 if field tested) is required. CBC 1207.2
63. Identify all sound rated partitions, floors and decks on the floor plans.
64. Wall-mounted lavatories and toilets are not permitted on sound-rated partitions.
65. Submit sound attenuation design for HVAC equipment per ARI Std. 275. Sound level not to exceed 50 DBA (55 dba with timer; 65 dba with timer and neighbor's consent) per Section 10.26.045 of the NBMC. Location of measurement to be at adjacent property patio or opening. Locate equipment in equipment well on roof if necessary.
66. Add the following sound insulation notes on the drawings:
 - a. Approved acoustical sealant shall be provided along the joint between the floor and the separation wall.
 - b. All penetrations into sound-rated partitions of floor-ceiling assemblies shall be sealed with approved permanent resilient sealant.
 - c. All rigid conduit, ducts, plumbing pipes and appliance vents located in sound assemblies shall be isolated from the building construction by means of resilient sleeves, mounts or minimum 1/4" thick approved resilient material.
Exception: gas piping need not be isolated.
 - d. Metal ventilating and conditioned air ducts located in sound assemblies shall be lined.
 - e. Mineral fiber insulation shall be installed in joist spaces to a point 12" beyond the pipe or duct, whenever a plumbing pipe or duct penetrates a floor-ceiling assembly or where such unit passes through the plane of the floor-ceiling assembly within a wall

FIRE HAZARD SEVERITY ZONE

67. The project site is located in a designated Fire Hazard Severity Zone (FHSZ), include the "Fire Hazard Severity Zone Minimum Construction Requirements" on a sheet of the plans.
68. Accessory and miscellaneous structures, other than buildings shall be constructed to conform to the FHSZ ignition resistance requirements. CBC 704A.
69. Attached or detached trellises, arbors, patio covers, carports, gazebos and similar unenclosed covered structures shall comply with the FHSZ requirements. CBC 710A.2 & CBC 710A.3.2
70. Approved FHSZ exterior materials include the following: CBC 707A.
 - a. Noncombustible material; CBC 202
 - b. Ignition-resistant material; CBC 702A & 704A.2
 - c. Exterior rated Fire-retardant-treated wood. CBC 703A5.2 & 2303.2
 - d. Heavy timber (minimum 4 inch nominal); CBC 702A
 - e. One layer of 5/8-inch Type X gypsum sheathing applied immediately behind the exterior covering or cladding;
 - f. The exterior portion of a 1-hour fire resistive exterior wall assembly, listed in the Gypsum Association Fire Resistance Design Manual
71. Paints, coatings, stains or other surface treatments are **not** approved FHSZ fire-retardant treatment methods. CBC 703A.5.3
72. All exterior on or above grade surfaces within 10 feet of the main building, including but not limited to balconies, decks, patios, porches, or stairs, shall be of an approved FHSZ exterior material. CBC 709A.2 & CBC 709A.3
73. All new or altered exterior walls, window or door trim, handrails, guardrails, and architectural elements shall be of an approved FHSZ exterior material, regardless of separation distance from a property line. NBMC & 708A
74. All exterior overhangs, soffits, porch ceilings, deck or floor projections, and similar elements, shall be an approved FHSZ exterior material, regardless of the separation distance from a property line. CBC 707A.4
75. Vents shall not be installed on the underside of eaves and cornices. CBC 706A.3

ADDITIONAL REGULATIONS

76. Sprinklers:

- a New construction or addition and reconstruction, which exceed 2,000 sf. and exceed 50% of the area of the existing structure, require installation of a fire sprinkler system throughout the structure.
 - b Where the valuation of the permit for the remodel or renovation of a building is equal to or exceeds 50% of the market value of such building, then the entire building shall comply with the code provisions for new construction except for those permits having a valuation less than \$200,000.00 Section 102.7.
 - c Sprinkler drawings and hydraulic calculations to be submitted to plan check and approved prior to issuing a building permit or provide a note on the drawing stating: "Obtain fire sprinkler permit prior to calling for roof sheathing inspection."
 - d Revise building data on cover sheet to identify that building is equipped with fire sprinkler system in accordance with NFPA 13D.
77. List all deferred submittals on cover sheet and write note: "Deferred submittals to be reviewed by project architect or engineer of record and certified prior to submittal for plan check or approval by the City."
78. Wood framed structures with basements or more than 2 stories in height shall be prepared by a licensed architect or engineer. Per Section 15.05.080 Newport Beach Municipal Code as amended to Section R301.1.3.2 CRC.

FLOOD HAZARD ZONE

79. Building site is located in a special flood hazard zone. Top of slab or first floor over crawl space to be at or above elevation: 9.0 MSL (North American Vertical Datum (NAVD) 88). National Geodetic Vertical Datum (NGVD) = NAVD – 2.4'. NBMC 15.50.200(c)
80. Existing structure: The cost of construction based on City-adopted construction valuation table exceeds 50% of the depreciated value of the existing structure. The entire structure (existing and new) shall be elevated so top of slab elevation is at or higher than 9.0 MSL (NAVD88). NBMC 15.50.200
81. Parking garage: Building access or storage may be located below the base flood elevation (BFE) provided the floor elevation is above adjacent grade. Provide two openings, bottom of openings to be within 1 foot from grade and below the top of concrete curb supporting the sill plate. Provide one inch of opening per foot of floor area. NBMC 15.50.200(d)
82. Where top of garage floor slab is lower than the base flood elevation (BFE), garage walls are to be supported over concrete curb with top of curb \geq 9.0 NAVD.
83. A licensed surveyor shall complete FEMA elevation certificate and submit it to Building Department Inspector during final inspection. (Show note on plans.)
84. All mechanical and electrical equipment, including ducts to be at or above base flood elevation of 9.0 msl. (NAVD 88).

WATER QUALITY

85. Prepare a Water Quality Management Plan (WQMP) consistent with the model WQMP, Exhibit 7.II ([www.ocwatersheds.com/model WQMP](http://www.ocwatersheds.com/model_WQMP)).
86. All significant redevelopment projects consisting of addition or replacement of 5,000 or more square feet of impervious surface on an already developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety.

STRUCTURAL

87. Provide material specifications for _____ on the plans.
88. Provide design criteria on the plans to show, the risk category, the wind load based on 110 mph,, specify seismic force resisting system and associated R and Ω values. ASCE 7-10, table 1.5-1 and Table 12.2-1.

89. Submit mapped accelerations parameters S_s and S_1 and other seismic design parameters using USGS website at <http://earthquake.usgs.gov/designmaps> or through SEI web site <http://content.seinstitute.org>
90. Include the vertical seismic load effects $E_v = 0.2S_{ds} \times DL$ (strength level) and $E_v = 0.14S_{ds} \times DL$ (ASD level) as required per ASCE-7-10 Section 12.4.2.2
91. Specify live loads used in the design for roof and floor loads. Deflection criteria shall be per Table R301.7
92. Elevated garage floors that support vehicular loading shall be designed to resist 50 psf and min 2000 lb concentrated force acting on 20 square inches area.
93. Submit structural design/analysis calculations for:
94. Provide engineered design in accordance with 2013 CBC, R301.2.1, R301.2.2, and ASCE 7-10.
95. For new construction or addition exceeding 1,000 sq. ft. on grade, provide a soils report and reference to soils report on the plans. Specify soils engineer's name, address, report date, etc. List soils allowable design values on foundation plan. NBMC 15.05.150, R401.1
96. Soils engineer to review and approve final foundation and grading plan for complex projects on, or near a slope, or with excavation.
97. Provide a written statement of required special inspections per Section 1704.3.1. Provide required verification and inspections per Section 1705
98. Provide a written statement of required structural observation identifying frequency and extent in accordance with department policy CBC 1704.5

FRAMING

99. Provide framing support under point load or bearing wall supporting roof framing at _____, and show location of supported post above on floor framing.
100. Studs supporting two floors, ceiling, and roof must be 3 x 4 or 2 x 6 at 16 inches on center. CRC Table R602.3.(5)
101. Provide truss design drawings or list with required deferred submittals. Provide key plans identifying the required drag trusses and required capacity of the drag element. A key plan is required to be filed with the City and approved prior to installations.

LATERAL

102. Wood structural panel shear walls shall comply with CBC Table 2306.3(1) or SDPWS Table 4.3A. Provide shear wall schedule with following specifications:
 - a. Minimum 3x nominal framing at panel edges and staggered edge nailing where nails are spaced 2 inches on center or closer (footnote d or g.), or when shear design value exceeds 350 plf (footnote i).
 - b. Where panels are applied on both sides of wall and nail spacing is less than 6 inches on center, panel joints shall be offset to fall on different framing members, or framing shall be minimum 3x nominal at adjoining panel edges and edge nailing on each side shall be staggered (footnote h).
 - c. Load path to the foundations shall be provided for uplift, shear and compression forces. Elements resisting shear wall forces contributed by multiple stories shall be designed for the sum forces contributed by each story/ SDPWS 4.3.6.4.4
 - d. Anchor bolts shall include steel plate washers, a minimum of 0.229" x 3" x 3" in size, between sill plate and nut R602.11.1 (Acceptable alternate SDPWS 4.3.6.4.3)
 - e. Fasteners and connectors to be galvanized for preservative treated wood. CBC 2304.9.5.1
103. Determine mapped MCE spectral response acceleration parameters at short periods $S_s =$ and at a one second period $S_1 =$ in accordance with ASCE 7-10 Section 11.4.1.
104. Walls braced to resist wind and seismic forces shall not exceed height to width ratios of 3½:1 and 2:1 respectively for wood structural panels; and 1½:1 for gypsum wallboard and Portland cement plaster (stucco). R301.1 and CBC 2305 / AF&PA SDPWS TABLE 4.3.4-2008.

105. For shear walls resisting seismic forces and not meeting the aspect ratio of 2:1 shall have the unit shear capacity reduced by 2bs/h. SDPWS TABLE 4.3.4 footnote 1
106. For shear walls with openings design the force transfer around the openings per R602.10 / R301.1 and CBC 2305 / AF&PA SDPWS-2008.
107. Walls or columns participating in resisting seismic forces in two orthogonal directions shall be designed to resist 100 % in one direction plus 30% in the other direction.
108. Provide details for transfer of shear wall holdown forces to foundation for shear walls above first floor.
109. Holdowns are required for all shear walls with net uplift forces. Use applicable ASCE 7-10 SECTION 12.4.2.1- FACTORS FOR DL for earthquake and 0.9DL (strength level) 0.6 DL (ASD LEVEL) for wind for calculation of forces resisting shear wall overturning.
110. Provide grade beam design for continuous footings supporting lateral force resisting elements.
111. Design structural elements for support of discontinuous lateral force resisting elements using overstrength Ω factor 2.5 in accordance with ASCE 7-10, Section 12.3.3.3. Reactions at ends of structural elements are required to be transferred to foundation, or until there are no net reactions. Provide details of all connections.
112. Provide design/analysis of horizontal diaphragms, chords and chord splices:
 - a. Provide design of drag/struts and drag/strut connections. Include calculations for required diaphragm nailing at drag/struts (2 rows diaphragm BN will be required if diaphragms on each side of drag/strut are loaded to capacity).
 - b. Identify drag/struts on plans and specify drag/strut nailing.

FOUNDATION

113. Geotechnical investigation report shall be required for structures in seismic design category D as required by ASCE 7-10 Section 11.8.2 and Section 11.8.3.
114. New construction or when the valuation of the permit for the remodel or renovation of an existing building is equal to or exceeds 50% and \$200,000 of the market value of such building and the building is located within an area prone to liquefaction, shall mitigate liquefaction by using one of the following options:
 - a. Minimum Construction requirement option 1:
 - i. Tie all pad footings with grade beams.
 - ii. Bottom of all footings to be 24 inch below grade.
 - iii. Continuous footings to have a minimum of 2 #5 steel bars at top and bottom.
 - iv. Floor slab on grade to be 5 inch thick (minimum) reinforced with #4 bars at 12 inch on center each way located at the center of the slab.
 - v. Dowel footing to slab with #4 bars at 24 inch on center.
 - b. Minimum Construction requirement option 2:
 - vi. Mix the top five feet of sand with cement at the ratio of two sacks of cement per cubic yard and recompact in place.
 - i. Tie all pad footings with grade beams.
 - c. 12 inch thick structural mat foundation.
 - d. Post-tension slab and foundation.
 - e. Caissons or pile foundation. Driven piles should not be used since vibrations from pile driving will result in consolidation and damages to adjacent structures.
 - f. Replace soils to a depth of five feet with imported soils approved by a soils engineer.
 - g. Foundation design per soils engineer recommendation, which is equal to or exceeds mitigation methods listed above.
115. New slab on grade shall install a Capillary Break in compliance with one of the following (CG 4.505.2.1):
 - a. A 2-inch thick layer of sand over a vapor barrier meeting ASTM 1745 (15MIL) over 2 inches of sand, over a 4-inch thick base of ½ inch or larger clean aggregate.

- b. A concrete mix design which will address bleeding, shrinkage, and curling will be required where the vapor barrier is applied directly over 4 inch of ½ inch or larger aggregate. (For additional information, see American Concrete Institute, ACI 302.0R-06)
- 116. Foundations and floor slabs for buildings located in expansive soils shall be designed in accordance with CBC Section 1808.6
- 117. Provide minimum of 1-#4 reinforcing bar at top and bottom of continuous footings. R403.2.3.1
- 118. Wood framing members, including wood sheathing, that rest on exterior foundation walls and are less than 8 inches from exposed earth shall be of naturally durable or preservative-treated wood. R317.1(2)
- 119. Call out foundation bolt size and spacing on foundation plan. The foundation bolts shall be ½ inch diameter for SDC D and 5/8 inch diameter for SDC E or F with 0.229 inch x 3 inch x 3 inch plate washers, embedded at least 7 inches into the concrete or masonry foundation, spaced not more than 6 ft. apart. R602.11.1 and max 4 ft for buildings over two stories in height. All cripple walls shall be braced.
- 120. Show minimum 18 inch under floor clearance from grade to bottom of floor joists and minimum 12 inch clearance to bottom of girders. R317.1

ADDITIONAL CORRECTIONS

- 121.